

US EPA ARCHIVE DOCUMENT

Fecal Coliform Total Maximum Daily Load (TMDL)
McKay Creek (WBID 1633B)
Responsiveness Summary
EPA Region 4

May 2012

Commenter
Pinellas County

Comment A: The description of the waterbody is incorrect. McKay Creek does not drain to Church Creek (WBID 1643). Both freshwater creeks drain into WBID 1633 –McKay Creek Tidal.

Response A: This was a typographical error in the proposed TMDL. The final TMDL has been corrected.

Comment B: Site 21FLPDEM27-03 had 6 exceedances all less than 1000 cfu except for one instance. Site 21FLPDEM27-03 is located at the outfall of Walsingham Park. This park is situated on 354 acres and divided by 100 acre Walsingham Lake. The Walsingham reservoir is also located on park property (see here http://www.pinellascounty.org/park/22_Walsingham.htm for more information on this park). The fecal coliform exceedances at this site are likely caused by wildlife. There are no septic systems in the area.

Response B: As stated in the proposed TMDL report, wildlife, particularly birds and water fowls associated with the Walsingham Lake and/or Walsingham Reservoir, could be potential sources of bacteria to McKay Creek. However, Walsingham is a public park that offers a variety of amenities such as a dog park. These types of amenities could also be potential sources of bacteria. Additional investigation during the initial steps of implementation is needed to locate the bacteria source for these exceedances.

Comment C: The majority of exceedances occurred at site 21FLPDEM27-09. Out of 50 exceedances, 43 were from that location and showed the highest Fecal Coliform readings, up to 13,000 cfu. Since other locations on the McKay Creek upstream of this site and downstream of Walsingham Lake showed compliance for Fecal Coliforms, Pinellas County conducted targeted fecal coliform sampling on January 27th, 2012. Five locations upstream of 21FLPDEM27-09 and one downstream were selected beginning at the Taylor Lake Outfall (upstream of site 21FLTPA 27545608248150) and working downstream. The locations of the sites and associated results are shown in Figure 1 (*Note: Figure 1 is not included in the responsiveness summary but is included in the public comments*).

Fecal Coliform readings increase from:

240 cfu at the Taylor Lake outfall, to

880 cfu near site 21FLTPA 27545608248150.

190 m downstream @ Largo Medical's groundwater disch. - 1160 cfu.

375 meters downstream near a Veterinarian's office – 2200 cfu
220 m downstream to 21FLPDEM27-09 – 2250 cfu
90 m downstream to the final site - 2100 cfu

There appears to be a Fecal Coliform issue in that particular stretch of McKay Creek, which is solely located in the City of Largo's jurisdiction. Lab results and maps of the targeted sampling conducted by Pinellas County were turned over to the City of Largo for further investigation. These documents are available upon request by EPA.

Response C: Comment noted.

Comment D: Page 8 of the TMDL document states that gage data are available at USGS Station 02309110. This station is located within WBID 1633 – McKay Creek Tidal, and is therefore tidally influenced. The entire analysis (pages 8-12), including the determination that both point and non-point sources need to be addressed is flawed as these are not appropriate data to use in determination of a duration curve. The City of Largo maintains a gage at site 21FLPDEM27-09. These data would be more appropriate and can be obtained by contacting the City of Largo.

Response D: USGS Gage 02309110 is located less than a mile downstream of monitoring station 21 FLPDEM27-09 and immediately downstream of the WBID 1633B boundary. Although the gage is located in a tidally-influenced WBID, the gage is positioned in the upstream-most location and is only minimally influenced, if any at all. Gage height was used in the TMDL to infer high and low flow conditions resulting from rainfall in the area. The gage height duration curve was divided into five flow zones for analysis purposes: high flows (0-10% duration), moist conditions (10-40% duration), median or mid-range flows (40-60% duration), dry conditions (60-90% duration), and low flow (90-100% duration). Fecal coliform exceedances were detected at three monitoring stations within WBID 1633B. Samples from each of these stations were compared with the gage height duration curve. Due to the numerous exceedances detected at Monitoring Station 21 FLPDEM27-09, this station is discussed in more detail below.

The samples evaluated for Monitoring Station 21 FLPDEM27-09 were collected from February 2005 to March 2011. A total of 48 samples were collected, of which 43 samples exceeded the 400 criteria. Fecal coliform exceedances were detected in all five flow zones: 5 exceedances during high flow, 8 exceedances during moist conditions, 9 exceedances during mid-range flow, 19 exceedances during dry conditions and 2 exceedances during low flow. Based on this information, the proposed TMDL concluded that fecal coliform concentrations were not dependent on flow conditions and therefore, implementation should address controlling point and nonpoint sources during both wet and dry weather conditions. In order to ensure that this conclusion is accurate and not flawed due to tidal influences, EPA compared the samples from Monitoring Station 21 FLPDEM27-09 with precipitation data collected at USGS Gage 02309110. No correlation was found between the precipitation data and the fecal coliform concentrations. This corroborates the conclusion stated in the proposed TMDL report. Based on all of the data, EPA feels that a second gage height duration curve would not change the findings of the proposed TMDL report and is therefore not warranted at this time.

Comment E: Septic Tanks. According to the Pinellas County Health Department available data, there are about 30 septic tanks in WBID 1633B, none of which are within the immediate vicinity of the stretch of McKay Creek that is currently of concern.

Response E: The information provided in the proposed TMDL regarding septic tank systems in Pinellas County was included to demonstrate that septic tank systems are a potential source of fecal coliform bacteria. The proposed TMDL states that this data is summarized at the county level and the extent to which these values pertain to the impaired watershed is not known. Additional information such as, but not limited to, location of septic tanks, the age and maintenance history of septic systems in the area, the average depth of these septic systems, depth to groundwater, and depth of McKay Creek is needed to determine to what extent septic tank systems may be contributing to the pathogen contamination in McKay Creek. Without more information a conclusive statement regarding the role of septic tank systems can not be provided. However, as stated in Section 9, the initial step in implementing any pathogen TMDL is to more specifically locate source(s) of bacteria in the watershed.

Comment F: Load determination – The calculation used to determine load reduction is based on existing concentration, which is biased by elevated readings in the Largo maintained section of McKay Creek just upstream of 21FLPDEM27-09. These are not representative conditions of the whole watershed.

Response F: The TMDL report must be prepared for the entire WBID and cannot be divided into smaller segments; however, the focus of implementation for a fecal coliform TMDL is source location. Based on the information provided in the proposed TMDL and on the data recently collected by Pinellas County, the immediate area surrounding Monitoring Station 21FLPDEM27-09 should be further investigated for possible sources.

Comment G: McKay Creek TMDL: The Fecal Coliform TMDL for McKay Creek is flawed based on the utilization of a tidal USGS Gage to determine flow duration curves. Data should be obtained from the City of Largo's gage located at 21FLPDEM27-09 to revisit the analysis. In addition, consideration should be given to the potential Fecal Coliform hotspot located near that station, which is entirely within the City of Largo's jurisdiction.

We understand FDEP and EPA have been tasked with a difficult mission in generating numerous TMDLs within a short timeframe. Nevertheless, as demonstrated, there are numerous concerns with these proposed TMDLs. The methodologies utilized in these assessments are technically flawed, and not based on sound science as required by the Clean Water Act. Pinellas County requests that the proposed TMDLs be re-evaluated.

Response G: The questions pertaining to gage selection and a potential fecal coliform hotspot have been addressed in the responses above. For the reasons provided in the previous responses, EPA does not feel that a re-evaluation of the proposed TMDL is warranted at this time.